« Water Security, Climate Change Adaptation, Mitigation and Resilience in Africa[1]»

By S. Diop[2]

Summary of presentation

Based on the 4th and 5th IPCC reports, it is predicted that the following changes are likely to occur before the end of this century, including:

• An increased temperature of 2 to 4 degrees Celsius or more;

• A decreased rainfall of up to 20%, and a sea level rise that could eliminate agricultural land and move millions of people off their lands;

• Climate change and variability that will negatively affect rainfed agricultural productivity in many parts of Africa as a whole, with more or less important variances occurring in several places and localities;

• Various other changes and modifications that are likely to happen in response to a great variability in the global climate, including extreme aridity in some cases, and flooding in others.

On the basis of the analysis of such facts and findings, it has become clear that integrating climate change risks and opportunities into development decision-making is a key challenge facing us, particularly for the most exposed African countries, which are most vulnerable to the negative impacts of climate change. There are many implications of climatic variability and change in Africa, including impacts on water resources and hydrological systems, water availability, water resource management and sea level variations, in a nutshell on water security as a whole. Thus, managing the combined impacts of climate, demographic and economic change in Africa is as much a political and development challenge as a technical climate change challenge.

It is well known that the status of water resources in Africa has been changing for many decades, with decreasing water quantity and quality, sinking groundwater levels, more or less changed timing of rainfall, etc.. Indeed, changes in this domain are not new. Nevertheless, climate change will strongly accelerate the rate of these changes, affecting the ability of people and societies to cope and to respond in a timely manner to them and their impacts. Within this framework, managing high rates of change in a context of uncertainty is a challenge for African governments. The main responses to be directed to this effort must include increased resilience at the household, community, national and transboundary or regional levels. Increased resilience will enable people, particularly those living in poverty, to respond more effectively to climate-related changes and to recover more quickly from related disasters.

The key elements of resilience are poverty eradication and access to appropriate scientific information in order to make adaptation and mitigation to climate change a development challenge and achievement for Africa.

---

[1] *MEETING of NETWORK OF AFRICAN ACADEMIES OF SCIENCE (NASAC) & INTERAMERICAN NETWORK OF ACADEMIES OF SCIENCE (IANAS); "IMPROVING THE MANAGEMENT OF WATER RESOURCES FOR SUSTAINABLE DEVELOPMENT IN AFRICA AND THE AMERICAS" - Nairobi, Kenya - October 12th - 15th, 2015.*

[2] ***Professeur at CAD University – Dakar - Senegal; Member of the National Academy of Sciences and Techniques of Senegal (ANSTS), the African Academy of Sciences (AAS) and the World Academy of Sciences for the Advancement of Sciences in the Developing Countries (TWAS). P.O. box : 5346 – Dakar-Fann, Senegal.***
E-mail: sal-fatd@orange.sn - Personal website: http://www.esalifdiop.org